

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1-84. (Canceled)

85. (Currently Amended) A method of ~~promoting angiogenesis~~ transferring nucleic acids into one or more striated muscles *in vivo* comprising: contacting *in vivo* at least one striated muscle cell with at least one nucleic acid ~~encoding at least one angiogenic factor~~, and electrically stimulating said at least one striated muscle cell with at least one unipolar pulse of an electric field intensity ranging from ~~1 to 800 V/cm²~~ 4 to 400 V/cm.

86. (Currently Amended) The method according to ~~claim 85~~ claim 118, wherein said angiogenic factor is chosen from VEGF, FGF, angiopoietin 1, angiopoietin 2, and endothelin.

87. (Previously Presented) The method according to claim 86, wherein said angiogenic factor is VEGF.

88. (Previously Presented) The method according to claim 86, wherein said angiogenic factor is FGF.

89. (Previously Presented) The method according to claim 88, wherein said FGF is FGF 1.

90. (Canceled)

91. (Previously Presented) The method according to claim 85, wherein said at least one striated muscle cell is a skeletal muscle cell.

92-94. (Canceled)

95. (Previously Presented) The method according to claim 85, wherein said at least one nucleic acid is injected by a systemic route.

96. (Previously Presented) The method according to claim 85, wherein said at least one nucleic acid is injected by an intra-arterial or intravenous route.

97. (Canceled).

98. (Currently Amended) The method according to ~~claim 97~~ claim 85, wherein said electric field intensity ranges from ~~1 to 200 V/cm²~~ 4 to 200 V/cm.

99. (Currently Amended) The method according to claim 98, wherein said electric field intensity ranges from ~~100 to 200 V/cm²~~ 100 to 200 V/cm.

100. (Previously Presented) The method according to claim 85, wherein said electric stimulation is greater than 10 milliseconds in duration.

101. (Previously Presented) The method according to claim 85, wherein said electrical stimulation comprises from 1 to 100,000 unipolar pulses.

102. (Previously Presented) The method according to claim 85, wherein said at least one unipolar pulse is chosen from square wave pulses and exponentially decreasing pulses.

103. (Canceled)

104. (Currently Amended) ~~A method of promoting hemostasis *in vivo* comprising:—
contacting *in vivo* at least one striated muscle cell with~~ The method according to claim 85, wherein said at least one nucleic acid encoding encodes at least one blood-clotting factor, ~~and electrically stimulating said at least one striated muscle cell with at least one unipolar pulse of an electric field intensity ranging from 1 to 800 V/cm².~~

105. (Previously Presented) The method according to claim 104, wherein said blood-clotting factor is chosen from factor VII, factor VIII, and factor IX.

106. (Previously Presented) The method according to claim 105, wherein said blood-clotting factor is factor IX.

107. (Currently Amended) ~~A method of stimulating nerve growth *in vivo* comprising: contacting *in vivo* at least one striated muscle cell with~~ The method according to claim 85, wherein said at least one nucleic acid encoding encodes at least one neurotrophic factor, and electrically stimulating said at least one striated muscle cell with at least one unipolar pulse of an electric field intensity ranging from 1 to 800 V/cm².

108. (Previously Presented) The method according to claim 107, wherein said neurotrophic factor is chosen from NGF, BDNF, NT3, NT4/5, and NT6.

109. (Currently Amended) ~~A method of promoting the formation of red blood cells *in vivo* comprising: contacting *in vivo* at least one striated muscle cell with~~ The method according to claim 85, wherein said at least one nucleic acid encoding encodes at least one hematopoietic factor, and electrically stimulating said at least one striated muscle cell with at least one unipolar pulse of an electric field intensity ranging from 1 to 800 V/cm².

110. (Previously Presented) The method according to claim 109, where said at least one hematopoietic factor is chosen from erythropoietin, GM-CSF, M-CSF, and LIF.

111. (Currently Amended) ~~A method of producing expression of human factor IX *in vivo* in striated muscle comprising: contacting *in vivo* at least one striated muscle cell with~~ The method according to claim 85, wherein said at least one nucleic acid ~~encoding~~ encodes said human factor IX; and ~~electrically stimulating said at least one striated muscle cell with at least one unipolar pulse of an electric field intensity ranging from 1 to~~ 800 V/cm².

112. (Currently Amended) ~~A method of producing expression of secreted alkaline phosphatase (SeAP) *in vivo* in striated muscle comprising: contacting *in vivo* at least one striated muscle cell with~~ The method according to claim 85, wherein said at least one nucleic acid ~~encoding said~~ encodes SeAP; and ~~electrically stimulating said at least one striated muscle cell with at least one unipolar pulse of an electric field intensity ranging from 1 to~~ 800 V/cm².

113. (Currently Amended) ~~A method of producing expression of erythropoietin (EPO) *in vivo* in striated muscle comprising: contacting *in vivo* at least one striated muscle cell with~~ The method according to claim 85, wherein said at least one nucleic acid ~~encoding said~~ encodes EPO; and ~~electrically stimulating said at least one striated muscle cell with at least one unipolar pulse of an electric field intensity ranging from 1 to~~ 800 V/cm².

114. (Currently Amended) ~~A method of producing expression of vascular endothelium growth factor (VEGF) *in vivo* in striated muscle comprising: contacting *in vivo* at least one striated muscle cell with~~ The method according to claim 85, wherein said at least

one nucleic acid encoding said encodes VEGF; and electrically stimulating said at least one striated muscle cell with at least one unipolar pulse of an electric field intensity ranging from 1 to 800 V/cm².

115. (Currently Amended) A method of producing expression of fibroblast growth factor 1 (FGF1) *in vivo* in striated muscle comprising: contacting *in vivo* at least one striated muscle cell with The method according to claim 85, wherein said at least one nucleic acid encoding said encodes FGF1; and electrically stimulating said at least one striated muscle cell with at least one unipolar pulse of an electric field intensity ranging from 1 to 800 V/cm².

116. (Currently Amended) A method of producing expression of neurotrophin 3 (NT3) *in vivo* in striated muscle comprising: contacting *in vivo* at least one striated muscle cell with The method according to claim 85, wherein said at least one nucleic acid encoding said encodes NT3; and electrically stimulating said at least one striated muscle cell with at least one unipolar pulse of an electric field intensity ranging from 1 to 800 V/cm².

117. (Currently Amended) A method of producing expression of human growth hormone *in vivo* in striated muscle comprising: contacting *in vivo* at least one striated muscle cell with The method according to claim 85, wherein said at least one nucleic acid encoding said encodes human growth hormone; and electrically stimulating said at

~~least one striated muscle cell with at least one unipolar pulse of an electric field intensity ranging from 1 to 800 V/cm².~~

118. (New) The method of claim 85, wherein said at least one nucleic acid encodes at least one angiogenic factor.

119. (New) The method of claim 85, wherein the electric field intensity ranges from 30 to 300 V/cm.

120. (New) The method of claim 85, wherein contacting *in vivo* at least one striated muscle cell with at least one nucleic acid precedes electrically stimulating said at least one striated muscle cell with at least one unipolar pulse of an electric field intensity ranging from 4 to 400 V/cm.